DH

Distr.
Limited

E/ECA/STAT/WG/MS/89/10
15 September 1989

UNITED NATIONS

ECONOMIC AND SOCIAL COUNCIL

Original: English

ECONOMIC COMMISSION FOR AFRICA

Working Group Meeting
on Migration Statistics

Addis Ababa, 6-10 November 1989

LC/NAIROBI.

REVIEW OF PROBLEMS FOR MEASURING AND ANALYZING INTERNAL AND INTERNATIONAL MIGRATION STATISTICS

TABLE OF CONTENTS

		Paragraph	Page
I.	INTRODUCTION	1- 7	1- 2
	A. Perspective of African Governments on Migration	1- 2	1
	B. Uses of internal and international migration data	3- 5	1
	C. Objectives of paper	6- 7	2
II.	PROBLEMS OF MIGRATION MEASUREMENT	8-57	2-14
	A. Problems of data collection system	10-31	2- 8
	1. Population censuses	10-18	3- 4
	a. Problems of enumeration methods	13-16	3- 4
	b. Concepts classifications and definitions of localities	17-18	4- 4
	2. Sample surveys	19-31	5- 6
	a. Methodological problems of sample surveys	20-27	5- 6
	3. Administrative sources	28-29	6- 7
	4. Indirect methods	30-31	7- 8
	B. Special problems with the measurement of female migration	32-34	8- 9
	C. Problems of African usages of migration definitions, concepts and classifications	35-57	9-14
	1. Field inquiry definitions, concepts and classifications	35-36	9-14
	a. Problems with the definition of migration	37-43	9-11
	b. Birthplace	44-47	11-12
	c. Duration of residence	48-49	12
	d. Place of previous residence	50-53	13
	e. Place of previous residence at a fixed prior period	54-55	13
	f. Migration history format	56-57	13-14
III.	PROBLEMS OF MIGRATION ANALYSES	58-79	14-19
	A. Problems of analyses of the characteristics, patterns and trends	59-61	14-15
	B. Problems of analyses on the determinates of	62-74	15-18
	1. Micro and macro approaches	63-66	15-16
	2. Problems with the determinants of female migration	67-74	16-18
	C. Problems of analyses of the consequences	75-79	18-19
IV.	SUMMARY	80-82	19-22

I. INTRODUCTION

A. Perspectives of African Governments on Migration

1. One aspect of population in Africa that Governments have overwhelmingly expressed dissatisfaction with is the spatial distribution of their populations, including the role of migration in the resulting spatial configurations. For example, 74 per cent of the countries that responded to the Fifth Inquiry of the United Nations conducted around 1981 perceived their spatial distribution as inappropriate. 1) Similarly, according to the preliminary results of the Sixth Inquiry of the United Nations, conducted between 1987 and 1988, 77 per cent of the 26 African countries that responded viewed their current patterns of spatial population distribution as inappropriate, including 81 per cent that considered the growth rate of metropolitan areas which includes a substantial migration component as inappropriate. 2)

2. Relative to international migration, monitoring reviews of the United Nations have reported that a majority of African countries are satisfied with their current patterns of immigration and emigration. However, a sizeable and growing number consider the rates of immigration (eg., Côte d'Ivoire, Gabon, The Gambia, Ghana, Libya, Morocco, Sao Tome, Seychelles, Somalia and Zimbabwe) and emigration (eg. Angola, Benin, Lesotho, Mali, Mauritania, Somalia and Uganda) as too high. In addition, the influx of refugees is considered a problem in Botswana, Djibouti, Somalia, Sudan, Uganda, Tanzania and Zaire. 3)

B. Uses of internal and international migration data

3. Data on migration can be used to analyze the movements of population from areas of origin (eg. rural and/or economically depressed regions) to areas of destination (eg., urban and/or economically prosperous regions). In this connection, it should be noted that one important recent characteristic of spatial population distribution/redistribution in Africa countries is the rapid rates of growth of urban localities, especially the primate cities. Moreover, movements have also been occurring from less to more endowed regions, for example, the seasonal migration from the drier inland countries of West Africa to the coastal more developed countries. A minimum requirement for understanding these movements include data on the volumes and characteristics of persons involved.

---

1) Economic Commision for Africa, Fifth Inquiry Among Governments: ECA Member States, Perceptions in Demographic Trends in Relations to Development as of 1982 Addis Ababa: 1984.

2) Preliminary Analysis of the Sixth Inquiry by ECA Population Division

3) United Nations, Population Policy Briefs: The Current Situation in Developing Countries, 1985 New York: 1986.

4. Formulation, implementation and monitoring of development plans and programmes are activities where data on migration are also required. Regional planners in particular have to take into account the characteristics, patterns and trends of migration in socio-economic development planning.

5. In addition, data on migration are needed for the preparations of national, subnational and sectoral population estimates and projections as well as for analytical studies bearing on determinants, consequences and other aspects of migration.

C. Objectives of paper

6. This paper attempts a review of problems of measurement and analysis of internal and international migration statistics in Africa. It should be noted that internal and international migration are similar in many respect. For example, both involve changes in residence either on a short- or long-term basis. Their determinants (especially the dominance of economic factors) and consequences for areas of origin and destination are identical. However, there are subtle differences between the two movements. Hence, to keep the discussion within manageable limits, problems on similar areas have been reviewed for both movements. In areas where there are marked differences separate reviews have been undertaken.

7. The paper consists of two main sections: Section II on problems of migration measurement systems and Section III on problems of migration analysis.

II. PROBLEMS OF MIGRATION MEASUREMENT SYSTEMS IN AFRICA

8. The three main sources of migration data are population censuses, sample surveys and administrative records (for example, population registers and border collection systems). However, in Africa, sample surveys and especially population censuses are the most popular sources for the collection of migration data. In this connection, a survey in 1976 and 1977 by the UN on internal migration data collection systems showed that for Africa 88 per cent of the 25 responding countries derived their data from field inquiries (i.e., population censuses and sample surveys). 4)

9. This present review of the problems of migration measurement systems is organized around two sub-sections: sub-sections A focuses on data collection systems and sub-section B on definitions, concepts and classifications.

---

4) United Nations, Statistics on Internal Migration, A Technical Report, studies in Methods, Series F. No. 23 (New York, 1978).

A. Problems of Data Collection Systems

1. Population censuses:

10. This data collection system can be used to collect two types of migration statistics and measures: those from the migration questions, and those from other information such as the age and sex data.

11. The major problem of population censuses as sources of migration data is the limited amount of questions - usually one, sometimes two or three - that are included. 5) Consequently, it is usually not possible from census data to delineate various types of migration patterns and to use the information to inquire into any details about dynamic aspects of migration such as determinants and consequences. In addition, not many African countries capitalize on one important advantage of population censuses - namely cross-classification of the data on migrants (non-migrants) with the other socio-economic (eg. educational attainment and occupational status) data collected.

12. Among the spatial and residence problems of censuses when used for the collection of migration statistics are the enumeration methods - de facto and de jure - adopted and the classification of locality.

a. Problems of the enumeration methods

13. The basis of the enumeration in population censuses (and also sample surveys), that is, whether it is the de facto (i.e., the present-in-area) or the de jure (place of usual residence) approach, has a bearing on the quality of the migration data collected.

14. The de facto approach is the enumeration method universally used, including Africa, although the French-speaking countries usually have a preference for the de jure approach. For tabulation of migration data for use in socio-economic planning and programmes, the de jure population distribution is preferred. However, the concept is more difficult to understand by enumerators and respondents than the de facto concept. Hence, in many cases, the use of the dejure concept leads to large coverage errors because of the probability for some members of households to be enumerated more than once or not at all. 6) Prominent among the population groups likely to be omitted are those in urban areas with no definable places of residence, that is, the 'floating' population.

---

5) K.C. Zachariah, "Measurement of Internal Migration from Census Data," in A.A. Brown and E. Neuberger (eds.) Internal Migration (New York: Academic Press, 1977)

6) Economic Commission for Africa, Study on Methods and Problems of the 1970 Round of African Population and Housing Censuses, E/CN.14/CAS.10/15 Addis Ababa : 1977.

15. On the other hand, the de facto approach, although it reduces the probability of coverage error, being a fairly simple concept, introduces distortions in the population defined as migrants, if the number of persons involved in short-term movements, away from their places of usual residences - eg. mothers who go to their home towns to give birth or persons away at home villages and towns during festive occasions such as christmas-is high.

16. These and other issues have been succintly stated in the United Nations recommendations for population and housing censuses:

> with the growing interest in information on households and families and on internal migration, it is becoming increasingly desirable to prepare tabulations on the basis of usual residence rather than on the basis of place where present, since the latter is often temporary and so not useful for the investigation of the above-mentioned topics. Also, although it is comparatively simpler to enumerate each person where present on the day of the census and to use a present-in-area population distribution, a usual-residence is likely to be more accurate than a present-in-area distribution, if the time required for enumeration is so long as to permit considerable movement of persons during the interval.7)

b. Concepts, classifications and definitions of localities:

17. Another problem of population censuses (as well as simple surveys) as sources of migration data in Africa as sources of migration data, when the migration defining area are localities rather than administrative divisions is the classifications and definitions of rural localities.

18. The classifications and definitions of rural localities present problems. For one thing, frequent charges occur in rural settlements through fragmentation, relocation and disappearance. For another, in certain parts of Africa, for example, Malawi and Botswana, another concept is used in place of a locality, that is, a distinct population cluster with definable boundaries. This is the village concept. The village usually has no definable boundaries and comprises more than one population cluster, features that complicate identification, mapping and enumeration.8)

---

7) United Nations, Principles and Recommendations for Population and Housing Censuses, Statistical Papers, Series M, No. 67, New York: 1980 para.

8) Economic Commission for Africa, "Classificatins, Definitions and concepts of locality in Africa", Statistical INformation Bulletin for Africa, E/ECA/SIB/16, No. 16.

2. Sample surveys:

19. Sample surveys provide the opportunity for more detailed study of various aspects of internal and international migration, e.g. characteristics, patterns and trends as well as determinants and consequences compared with population censuses. However, this method of data collection for migration statistics has inherent deficiencies and disadvantages.

a. Methodological problems of sample surveys:

20. Among the principal problems of sample surveys for measuring migration is generating a representative sample of migrants at a reasonable cost.9) Problems of selection of representative samples of migrants and related population groups arise from the fact that migrants from a particular origin may go to different localities. Also, some migrants return to their localities of origin. In addition, a significant proportion of migrants feature prominently among the 'floating' populations, whose enumerations pose certain problems. As well, in a migration survey for which the definition of migrants encompasses both temporal and spatial criteria, the selection of a representative sample, taking into account the above-mentioned and other criteria, presents survey statisticians with a number of problems.

21. In addition, in a number of African countries, field inquiries such as migration surveys have been confronted by other difficulties, such as, the lack of appropriate sampling frames because of: inadequate and out-of-date maps, old population census data and lack of street names in rural areas and certain parts of urban areas.

22. In the past African researchers on migration faced with these daunting problems have: (a) purposively selected their samples and/or (b) relied on relatively small sample sizes usually from either rural or urban areas.

23. Surveys based on unrepresentative and/or small sample sizes reduce the value of the findings for population policy formulation and generalization. This should not be taken, however, as implying that surveys based on purposive sampling have no use. For example, Goldstein have opined that:

---

9) S. Goldstein and A. Goldstein, "Surveys on Migration in Developing countries. A Methodological Review, " Paper of the East-West Centre, Hondulu: 1981;
J.T. Fawcett and Fred Arnold, "The Role of Surveys in the study of International Migration: An Appraisal," International Migration Review, (Winter 1987) vol 21; and Sally Findley, "Migration Survey Methodologies: A review of design issues", IUSSP Papers No. 20 (1982).

While losing the advantages that representative national or regional samples provide for attention to non-migrants as well as migrants, more purposive samples may prove more valuable for the assessment of the causes and consequences of population movement... 10)

24. However, for certain types of migration analyses, it has been argued that the longitudinal sample survey method is the best data collection vehicle. In particular this is the case for analyses requiring not just cross-sectional information but also data about the migrant (non-migrant) and the socio-economic contexts of the migration - before and after the move.

25. The major problems of the longitudinal sample survey method apart from recall lapse, include attrition of the sample populations through migration itself as well as mortality. 11) Moreover, this survey technique makes heavy demand on limited resources: manpower and finance.

26. With respect to internatinal migration, the choice of a representative sample is also confronted by a peculiar problem the presence of undocumented immigrants among the relevant population group.

27. In addition, many African survey-based studies of international migration have focussed mainly on high out-migration and in-migration areas or entry/exit points because they easily facilitate the selection of an adequate sample. The point made about difficulties of generalizing the findings of such purposive surveys as well as their advantages in certain circumstances apply. Also, such surveys, because they miss two important related migration groups - those who decide not to emigrate and return immigrants - may present distorted picture about the consequences of these movements.

3. Administrative sources:

28. The other source of migration data in African countries are administrative records such as permanent population registers and border collection systems. At the moment, no viable permanent population registers are maintained in African countries, from which it is possible to derive statistical information. It

---

10) Sidney Goldstein, "Research Priorities and Data Needs for Establishing and Evaluating Population Redistribution Policies," United Nations, Population Distribution Policies in Development Planning, ST/ECA/SER. A/75 (New York: 1981.

11) Joel W. Gregory, "Pitfalls and Potentials in Retrospective Survey Data for the Historical study of African Migration": in African Hostorical Demography, Proceedings of a seminar held at the centre of African studies, University of Edinburgh, April 1977.

should be noted in this respect that the maintenance of such a system in African countries - judging from the experience of other countries where they work - would make heavy demand on limited administrative and financial resources.

29. Relative to border collection systems for the generation of international migration data, it is pertinent to observe that elements of such a system exist especially at air frontier points in almost all African countries. However, almost all are plagued with problems. Foremost, is the gross incomplete coverage of persons who cross land frontiers. Two factors are responsible for incomplete coverage: because the boundaries were arbitrarily demarcated during the colonial period they straddle ethnic groups, and also because of their extensive lengths, most not protected by natural terrains.

4. Indirect methods

30. The more recent indirect analyses of migration are based on information from censuses such as age and sex distribution. The approach involves evaluating the expected inter censal population growth discounting migration and comparing the result with the actual growth of the population in order to infer net migration between the censuses. The problem with this approach is the derivation of the expected intercensal population, against the background of the absence of usable vital registration data in all but a handful of African countries. Given this situation analysts have been forced to use survival probability schedule from two censuses or from life tables. The results of the former technique are affected by age misreporting and coverage errors.

31. The practice of acquiring data on emigrants from the birth place data of receiving countries could also be discussed under this topic. The problems encountered by African countries in this connection include. 12)

a) Information on emigrants from receiving countries can only be acquired from countries that have conducted population censuses that separately code and tabulate persons from the countries under consideration. In African countries, however, it is usual for the coding and tabulation of the foreign-born, especially of the African population, not to be done in fine details. For example, in Tanzania, for the 1978 population census, only eight African countries located in Eastern and Central Africa were listed

---

12) T.J. Makannah, "Collecting Data on International Migration by Direct Measurement," IUSSP, African Population Conference, Dakar; Vol.1 (Liege: 1988)
for the birth place question. The remaining countries were classified as: (i) other African countries; (ii) countries outside Africa; and (iii) unknown.13)

b) The cross-sectional information on emigrants refers to the dates of the census in the receiving countries. It is rare for the census years of such countries to coincide with the census years of the countries interested in the emigration statistics, given the variety of census dates adopted by African countries. This factor complicates the interpretation of comparative international migration studies which depend on this data set.

B. Problems with the measurement of female migration

32. Migration research in Africa, and elsewhere, have concentrated on male patterns, determinants and consequences, because of two main reasons.14) Firstly because of the emphasis on economic factors as dominant in the migration decision-making process and the belief that the decision to migrate are predicated on the activities of the male, invariably, head of the household. The second reason is methodological and is related to the data collection technique adopted in African countries. These two themes are elaborated below.

33. In this connection, is should be noted that population census data provide the opportunity to tabulate separately various migration measures for females and males, depending on the questions included. Also, census data facilitate cross-classification of socio-economic variables collected with the migration data as well analyses on female/male differentials. As pointed out earlier, cross-classifications of socio-economic variables and the migration measures of population censuses however, have been rare in African countries.

34. However, the most intractable problem with the measurement of female migration is the use of the concept, household in population censuses and sample surveys as the basic unit of data collection. This approach introduces biases in the data on female migration in two ways. Firstly, the respondents in such inquiries are usually the heads of households; in the majority of cases, males, who may not know the answers to some of the questions for female members for such questions: place of previous residence, duration of residence and place of birth.

---

13) W.Mlay, "Migration: An Analysis of the 1978 Census," in United Rep. of Tanzania, 1978 Population Census, Vol.VIII, Dar es Salaam: Bureau of Statistics, 1974

14) S. Goldstein, op.cit

Secondly, the use of the household places hindrances in understanding aspects of migration in which it is important to know the roles of various individuals and groups such as the family. This issue will be taken up in the study of problems of determinants of female migrations.

C. Problems of African usages of migration definitions, concepts and classifications

1. Field inquiry definitions, concepts and classifications 15)

35. The measurement of migration in field inquiry (i.e. population censuses and surveys) is made possible by the inclusion of questions such as: place of birth, duration of residence; place of previous residence, place of residence at a fixed prior date and nationality. In addition, for sample surveys, which provide the opportunity to analyse migration in greater details, other migration questions can be included, such as the migration history questionnaire.

36. The types of migration measures along with their disadvantages of some of the mentioned questions have been summarized in table 1. Therefore, the discussion that follows will only highligh problems of African usages of these questions, as well as the definition of migration and the migration history question.

a. Problems with the definition of migration

37. The concept of migration presents problems of definition, as it encompasses, among other characteristics, space and time, which are based on a continuum. With respect to space migration involves simultaneously two localities: an area of origin, and an area of destination. Other spatial concepts that have been used for the definition of migration include physical distance, type of origin/destination, especially whether rural or urban and economic opportunity.

38. The difficulty with the temporal aspects of the definition of migration centres around the length of stay continuously in the destination or absence from the origin. For some authors migration must involve a sustained or permanent relocation in the place of destination. But others have also argued that the time period required for a person to qualify as a migrant should be flexible and determined for each individual case, taking into account the purpose of the data collection.

---

15) Economic Commission of Africa, "Concepts, Definitions and Classifications of Internal Migration in Africa", Statistical Information Bulletin, E/ECA/SIB.15) and "Concepts, Definitions and Classifications of International Migration Statistics in Africa", Statistical Information Bulletin, E/ECA/SIB.17.

Table 2: Types of migration measures that can be derived from selected questions used in field inquiry

	Question	Type of migration measures	Main advantages and disadvantages
1.	Place of birth	Lifetime in migration by place of origin; Lifetime outmigration by place of destination Net balance of Lifetime migration between any 2 places Foreign-born population by country of birth, age and sex; Data from more than one census can be used to estimate net intercensal immigration.	Advantages: The question is easily understood; provides the geographical configuration of migration. Disadvantages: Timing of migration unknown; exclusion of return migration.
2.	Duration of residence	Immigration by duration of residence in country, place of enumeration and major civil division, age and sex.	Advantages: Takes care of return migration; provides the timing of the last move. Disadvantages: Migration cohort may be decimated by remigration and deaths- factors influenced by duration of residence.
3.	Place of previous residence	Immigrants by place of last residence. Out-migration by place of present residence; net balance of migration between any 2 places	Advantages: Provides information on direct moves; otherwise similar to Question 1. Disadvantages: Lack of time reference.
4.	Place of residence at a fixed prior date	Immigrants by place of residence x years ago. Outmigrants by place of present residence, net migration between places	Advantages: Migration time span is clear. Disadvantages: Persons born during the interval not included.
5.	Nationality (citizenship)	De jure international migration information.	Advantages: Could be used to cross check informaton on birth place. Disadvantages: Poor reporting, especially among undocumented immigrants. Not useful for any rigorous analysis of migration for above and other shortcomings.

Adapted from: Zachariah, 1977; and United Nations, 1980a.

39. In addition, some writers advocate that the definition of migration should reflect factors such as the psychological, economic, social and demographic attributes that shape the movement.

40. For this reason, the simple definition of migration as a change of residence from one civil division to another has much to recommend. From the information on duration of stay, if a question on this item is included in the inquiry, further temporary classification are made.

41. From this definition, a movement is classified as internal migration when it is confined within the same country and international migration when it involves the crossing of a national boundary. But the use of civil division for the definition of especially internal migration which involves movements over a variety of boundaries, such as major as well as minor civil divisions, cities, towns, villages, provinces and districts is too restrictive. To take account of these sub-divisions of countries, for the purpose of data collection, tabulation and analysis, the concepts migration-defining area can be substituted for civil divisions in the above definition.

42. A review of concepts included on national definitions of internal migration indicated that among the seventeen African countries that responded, the majority nine, used the concept migration-defining area and migration interval, while three used minimum period of presence or absence. This review also revealed that a wide variety concepts were been employed by African countries in their definitions of internal migration 16)

43. Attention will now focus on African usages of concepts, definitions and classifications of questions included in field inquiries.

b. Birthplace 17)

44. This is the most popular question used by African countries for the measurement of migration in population censuses. In the 1970 and 1980 rounds of African censuses, 86 and 94 per cent respectively of the responding ECA member states included this question on their questionnaires (see table A.1 and A.2).

45. The concept is fairly easy to understand. The major problem with it pertains to the geographical and/or political division (i.e. the migration -defining area) of a country that should be provided by respondents and tabulated. When localities are used as the migration-defining area, it is possible to code and tabulate origin localities as either rural or urban. But a

---

16) United Nations "Statistics on Internal Migration," op.cit.

17) ECA, "Study on Methods and Problems..." op.cit.

number of considerations such as the large number of localities, even in small countries as well as the transient nature of rural localities, with a number bearing identical names would complicate enumeration, coding and tabulation.

46. Another problem with the concept in past population censuses is that some undocumented aliens have been known to have deliberately falsified answers (and to the related question on nationality).

47. Also, some countries have defined the birthplace as the place of usual residence of the respondents' mother to provide more relevant data for the tabulations on internal migration. This has happened in countries where it is customary for expecting mothers to go to their maternal homes, away from their usual places of residence to give birth. The concept, usual residence of the mother, is more complex than birthplace.

c. Duration of residence

48. This question was included by about one-third of the responding ECA member states on their questionnaires for the 1970 and 1980 African population censuses (see table A.1 and A.2). The two main problems encountered relate to recall lapse and the application of the concept to household members that had interrupted their residence. Also since this is a question that requires respondents to recollect about past lengths of stay in calendar terms, the answers to the question have been found to be affected by "memory lapse and digit preference error in reporting duration..."18)

49. In addition, the following problems have also been encountered: how to classify respondents whose stay in given localities had been interrupted by, for example, absence or stay at an educational institution or temporary assignment; and provision of information on this topic for absent household members.19) With respect to the first problem, a minimum period of absence, usually six months has been designated by some countries as not interrupting residence, although the classification of students who stay away at educational institutions for over six months has remained problematic.

---

18) Economic Commission for Africa, "Comparative Evaluation and Analysis of the 1980 Round of African Censuses"; ECA/POP/TP/87/3/2.1(iii), 30 Nov 1987.

19) ECA, "Study on Methods and Problems ...", op.cit

d. Place of previous residence

50. Four out of twenty-one and eight out of forty-eight ECA member states respectively had this question on their census schedules in the 1970 and 1980 rounds of African censuses respectively.20)

51. The question has been given two interpretations in African demographic inquiries. According to the first interpretation, place of previous residence is the previous residence with reference to residence at the time of the census. By the second interpretation, the place of previous residence is specified in terms of duration of stay.

52. Each version of the question has some problems. The problem with the first version, which according to a review of the 1970 round of African census was the more popular concept, is that for the answers to be meaningful, they should be cross-tabulated with the answers to a supplementary question on duration of residence.21) Failing that, migrants of various durations of stay would be combined.

53. The second version of the question has the advantage that migrants could be classified according to various durations of stay-one or five years, for example. However, in the choice of the time period a judicious balance has to be struck between capturing enough migration events and minimising recall lapse and digit preference problems.

e. Place of previous residence at a fixed prior date

54. This question did not apparently feature in the census questionnaires of African countries at the time of the 1970 round of African censuses. However, during the 1980 round, 29 per cent of the countries that participated included the question.

55. The main problem of this question has already been alluded to in the discussion on the question on place of previous residence, namely: the choice of a time period capable of capturing a sufficient amount of migration events and at the same time minimize recall lapse and digit preference.

f. Migration history questionnaire 22)

56. To capture various migratory events during the life cycle of the migrant, the migration history questionnaire is used in sample surveys. The questionnaire usually begins with an important life cycle event - for example, date of birth or entrance into the labour force - of the respondent, with information requested pertaining to all places in which the person had lived for a stated number of months or years.

---

20) United Nations, idem
21) ECA, idem
22) Goldstein and Goldstein, op.cit and Findley, op.cit.

57. The major problems of the questionnaire when used in largely illiterate populations such as in Africa, where the majority of people are not familiar with the calendar or the concept of chronological age include: correctly recalling past migration events as well as precisely locating them within a specified time frame. Failure to fulfil these two requirements vitiate the value of data collected from the migration history questionnaire.

III. PROBLEMS OF MIGRATION ANALYSIS

58. Analysis pertaining to migration can be classified into three broad classes. The first approach which is descriptive, attempts to measure the characteristics, patterns and trends of the movements. The second approach focuses on the determinants of the movements and is concerned with the reasons and correlates for the movements. The third approach pertains to consequences of the movements for the individual, household and family as well as the society as a whole. The spatial units of the analyses are the areas of origin and destination. The problems in undertaking analyses for these three approaches are now examined.

A. Problems of analyses of the characteristics, patterns and trends

59. One of the problems with the analyses of the characteristics of migration from African population censuses has been that, in the past, detailed cross-tabulations of the migration measures and other socio-economic variables such as educational and occupational status have rarely been done. According to Zachariah, " with proper cross-classifications, census data are ideally suitable for analyzing migration differentials, as they provide characteristics of migrants and non-migrants at destination."23)

60. In this connection, a problem with relying on census data for analyzing selectivity of changing characteristics should be pointed out. Of interest in such analyses are not just the migrants' (non-migrants') characteristics at the destination at the time of the census but also pre-migration characteristics at the origin before the move. While it is possible to infer characteristics such as sex (which does not change) and age, it is not possible to do so for items such as occupational status, educational attainment and income. Only demographic inquiries that inquire into pre migration events and characteristics by the use of retrospective questions such as the migration history format are able to fill in this gap. However, their results should be assessed against problems of retrospective questions assessed earlier.

---

23) Zachariah, op.cit

61. As well, measures of migration from various data collection systems are usually proxy measures of migration - for example, lifetime migrant from the birth place question. Also, migration measures derived from the same source but different questions may differ as well as those from different data collection systems. This complicates comparative analyses of migration.

B. Problems of analyses on the determinants

62. Problems relating to the analyses of the determinants of migration will be tackled from two perspectives - the micro and macro approaches.

1. Micro and Macro approaches

63. The micro approach to the determinants of migration focuses on the individual, the family or household as the unit of analysis. One source of this information is from migration surveys that include questions about the reasons for the migration. The problems with this approach is that some of the replies given are questionable because they confound real with imagined motives for the movements. In addition, post facto rationalization might cloud the answers (Bedford 1975:30)

> Post facto rationalization will dominate responses to questions such as "why did you leave your previous place of resident?); "Why did you move to this place?" As a number of researchers have found, motives adduced by migrants for moves in the past may hide, rather than reveal, underlying causes for movement. 24)

64. Another aspect of the micro approach is represented by the assumptions of economists about individual rational choice in migraiton models. Stated broadly, the approach postulates that an individual moves on the basis of expectations that he will be better off by such movements.

65. There have been two main problems with the application of this approach in African countries. Fristly, due to mainly the inability to empirically conceptualize non-economic factors, especially psychic returns and costs, only strictly economic (that is, measurable) costs and returns have usually been taken into account in some tests of the model. Secondly, it has been

---

24) R.Bedford, "The Questions to be asked of migrants" in R. Pryor (ed.) The Motivation of Migration, studies in Migration and Urbanization, No. 1, Australian National University, 1975.

argued that in African societies, "the undue emphasis on economic determinants tends to underplay the roles of non-market factors which are also important. 25)

66. With respect to the approach pertaining to the macro determinants of migration which focuses on the objective characteristics of the geographical or administrative unit and aggregate structural features as the motives for the movement, the prominent examples include economic studies on African countries that use aggregative census or survey data in econometric models. The conceptual and methodological problems of these studies consists of: (a) the high level of aggregation masks other aspects of the movements; and (b) the use of proxy economic variables in the absence of data on for example income and wage levels.

2. Problems of studies on the determinants of female migration

67. A prominent feature of social change in African economies in recent years is the rapid rates of growth of urban localities, especialy the primate cities. Men have for many years formed the majority of persons migrating to these urban areas, although in recent years the numbers of women migrating have been increasing. It is against this background that the formulation and estimation of models on the determinants of female migration should be viewed.

68. In the past, as has been stated earlier, most studies on migration, including those on determinants, have focused on men for two main reasons. They are that (a) men are the main decision-makers when it comes to important issues such as migration, with women considered as associational or tied movers; (b) the determinants and contexts of unattached women, when they migrate, are similar to those of males. 26)

69. Recent research seems to cast doubt on these assumptions. Firstly, there is evidence which shows that for both internal and international migration (especially in West Africa) an increasing number of unattached females are involved which argues for their separate treatment. In addition, there are marked differences between the determinants of female and male migrations - for instance, marital considerations and participation in different tasks in the urban labour market that buttress the above argument for separate treatment of female and male determinants.

---

25) G.F. De Jong and R.W. Gardner, Migration Decision Making (New York: Pergamon Press, 1981); and
Lorene Yap, "Internal Migration in Less-Developed Countries: A Survey of the Literature" Washington, D.C., World Bank Staff Working Paper.

26) V. Thadani and M. Todaro, "A framework for the Analysis of Female Migration"; New York: Population Council Center for Policy, 1979.

70. Thadani and Todaro have suggested the following factors that should be taken into account for the migration determinants of women namely: (a) economic factors (income and employment opportunities) (b) marriage considerations and (c) mediating variables impinging on female migration (eg., sex-role constraints) and other factors such as distance, cost, and transport that constrain both male and female migration. 27)

71. Brown has tested the model for Ghana focussing on some of the basic correlates of female migration, namely: marital status and labour force participation. He came to the conclusion that a variety of social and economic conditions influence female migration, with the importance of the factors determined primarily by the women's degree of economic independence. 28)

72. From this review, a number of questions can be raised about the conceptualization of female migration, namely:

(a) How to distinguish female associational migrants from independent female migrants?

(b) Should the migration of these two sets of female migrants be treated in one or separate models?

(c) How should variables, such as wage and income levels, that pertain specifically to female migrants be derived?

(d) Should the model on the determinants of female migration be based on the decision making process of the individual, household or family?

73. A number of researchers have also considered the methodological and conceptual problems of models on the determinants of female migration, and one has remarked with respect to Thailand that

> It is clear that migration studies have not began to reach their full potentials for analyzing motivations for female migration, adjustment problems, migrant needs, information flows, and a complex decision making process. 29)

---

27) Thandani and Todaro, idem

28) Edward K.A. Brown, "Patterns of Internal Migration in Ghana with special Emphasis on the Determinants of female Migration," Doctoral dissertation, University of Pennsylvania, 1983.

29) Fred Arnold and Suwanlee Piampiti, "Research and Plicy Review of Female Migration in Thailand", Paper prepared for the Women in Cities Working Group, Honolulu, East-West Population Institute, 1979.

74. Nonetheless, a moderate start could involve, paying attention to female migrants and non-migrants in the analysis and exploitation of data from field inquiries from the various questions included.

C. Problems of analyses on the consequences of migration

75. Issues on migration consequences - for example, the effects of rural-to-urban migration on the rural areas of origin as well as the urban destinations or the effects of migration on fertility levels - are important in African countries. However, researchers in attempting to tackle these weighty issues are faced with an array of conceptual, methodological and data probles. 30)

76. To begin with, compared with dererminants, the literature on the consequences of migration is relatively few. Thus researchers have limited theoretical and empirical approaches to draw upon.

77. A major conceptual problem is disentangling migration related changes from those of other factors - demographic factors, production relationships, drought and desertification, governement policies, etc. - also responsible for changes in social systems. There is no well established methodology for undertaking such a complex assignment. It is clear however that any attempt to understand the consequences of migration should take into account migration events and characteristics for at least two time periods: before the move at the origin and after the move, at the destination. Cross-sectional data, for example, from censuses about migration events and characteristics at the destination, are insufficient to grapple with the problem at hand, namely "Comparison between situations with similiar socio-economic conditions but different levels of intervening migration". 31)

78. But in Africa, most of the research on the consequences of migration that have so far been conducted have relied on either population census data or single round surveys using retrospective questions to elicit information about premigration characteristics and events. The problems with these approaches include the following: recall lapse and changes and depletion of the population by mortality and migration itself. More important, as Oberai has pointed out, cross-sectional comparison of socio-economic characteristics and migration events from censuses and such surveys amounts to "casual empiricism", since from them it is impossible to "distinguish between migration

---

30) Alan B. Simmons, "Hypothese and Analytical Approaches for the study is the Demographic and Socio-economic Consequences of Migration", in ESCAP, National Migration Surveys, Vol.X, Guidelines for Analyses" (New York: 1982)

31) idem

included changes and changes induced by other factors." 32) Data collected from a longitudinal survey involving at least two time periods, and also a control group comes near to satisfying the objective.

79. The problems raised will be illustrated by one example: the consequences of migration for fertility. That an increase in rural-to-urban migration usually results, with some lag, in decreases in urban fertility is a finding that has been consistently confioned by several studies. However, there is controversy of the type of mechanism at work because of unsatisfactory methodologies used: assimilation at the urban and due to factors as the urban environment and labour market which are less favourable to childbearing and rearing or spatial (migration) choices which reflect pre migration -formed fertility preferences. Previous methodologies to understand the relationship involved analyses of migrant selectivily based on various fertility measures or correlates of fertility levels rather than systematically attempting to delineate the changes in fertility as a sequel to migration, with attention paid to the timing of births and migration events.

IV. SUMMARY

80. This paper has reviewed aspects of problems of measurement and analysis of internal and international migration statistics in Africa. The review underlined basic deficiencies of concepts and data used for the measurement and analysis of the movements. Prominent among them is the complexity of the definition of migration, encompassing as ir does, both temporal and spatial dimensions among other characteristics. In this connection, the need was expressed for the use of meaningful concepts to classify various movements by scale and sequence, permanent, short-term and circular as well as by motives.

81. Sample surveys such as longitudinal inquiries and utilization of techniques like the migration history questionnaire, supplementing population censuses, were identified as methodologies to effectively address some of these complex measurement problems.

82. With respect to analysis, problems and issues of the micro and macro approaches as well as determinants of female migration were examined. In addition, the major conceptual problem of impact analysis of migration, namely disentangling migration related changes from other socio-economic, ecological, political, cultural factors of change in a dynamic system was reviewed.

---

32) A.S. Oberai, "Consequences of Migration for Production and Technology in Agriculture," International Statistical Institue, Booklet Volume II, Invited and Contributed papers, Madril Sept. 12-22 1983.

Table A.1: Geographic and Migration Questions Canvassed in 1970 Round of Censuses (Selected African Countries)

Country	Year	Residence Status	Place of Birth	Usual Residence	Previous Residence	Duration of Residence
Algeria	1966	x			x	x
Morocco	1971	x	x		x	
Libya	1973	x	x			
Sudan	1973		x			
Gambia	1973		x			
Ghana	1970		x			
Liberia	1974	x	x			x
Nigeria	1973		x			
Sierra Leone	1974		x			x
Togo	1970	x	x			x
Congo	1974	x	x			x
Gabon	1970	x	x	x		x
Botswana	1971					
Kenya	1969		x			
Lesotho	1966	x				
Malawi	1966	x	x			
Mauritius	1972		x			
Swaziland	1966		x			
Tanzania	1967		x			
Uganda	1969		x		x	x
Zambia	1969		x		x	
Total	21	9	18	1	4	7

Source : U.N.E.C.A., Study on methods and problems of the 1970 round of African Population and housing censuses. E/CN.14/CAS.10/15. October 1977.

In addition to these questions, there were several other types of questions covered by specific countries. These include:

1. Migration origin: - Togo, Congo, Gabon

2. Relatives abroad: - Malawi

Table A.1: Geographic and Migration Questions Canvassed in 1980 Round of African Censes

Country	Year	Residence Status	Place of Birth	Place of Residence	Residence at	Usual Residence Specific time past	Previous Residence	Duration of	Place of work Residence
Algeria	1977	x	x	x	x			x	x
Egypt	1976		x				x	x	x
Morocco	1971	x	x					x	
Libya	1984	x	x		x		x	x	
Sudan	1983		x			x		x	
Tunisia	1975	x	x		x			x	
Benin	1979		x				x		
Cape Verde	1980		x	x		x	x		
Côte d'Ivoire	1975	x	x			x			
Gambia	1983	x	x			x			
Ghana	1984	x	x						
Guinea	1983	x	x						
Guinea Bissau	1979	x	x						
Liberia	1984		x						
Mali	1976	x	x						
Mauritania	1976	x	x						
Niger	1977	x	x						
Nigeria	1973		x						
Senegal	1976	x	x						
Sierra Leone	1974		x						
Togo	1981	x	x		x				
Upper Volta	1975	x	x						
Burundi	1979	x	x						
Cameroon	1976	x	x			x	x	x	
C.A. Republic	1975		x					x	
Congo	1974	x	x						
Eq. Guinea	1983		x		x				
Gabon	1980		x						
Rwanda	1978	x	x						
Principe	1981		x						
Zaire	1984	x	x					x	
Botswana	1981	x	x		x			x	
Comoros	1980	x	x		x			x	
Djibouti	1983	x	x	x	x	x	x	x	
Ethiopia	1984	x	x	x				x	
Kenya	1979		x		x		x		
Lesotho	1976	x	x				x	x	
Madagascar	1975	x	x					x	
Malawi	1977		x		x				
Mauritius	1983				x	x			x
Mozambique	1980	x			x	x			
Total	41	27	39	4	12	8	8	16	3

Country	Year	Residence Status	Place of Birth	Place of Residence	Residence at	Usual Residence Specific time past	Previous Residence	Duration of	Place of work Residence
Seychelles	1977	x							
Somalia	1975		x						
Swaziland	1976		x						
Tanzania	1978		x						
Uganda	1980	x	x						
Zambia	1980		x		x			x	
Zimbabwe	1982		x		x				
Grand Total	48	29	45	4	14	8	8	17	3

Source: Census questionnaires of respective countries.

In addition to these questions there were several other types of questions canvassed by specific countries. These include:

1. Place of residence utside : - Mauritania, Tunisia and Lesotho.
2. Home place : - Nigeria
3. Origin/Destination : - Senegal and C.A. Republic
4. Duration of absence/visit : - Gambia, Cameroon, Angola, Congo, Botswana, Malawi and Swaziland
5. Motive for settlement : - Congo, Djibouti, Botswana and Cameroon
6. Means of transport for work or study : - Egypt.

UNITED NATIONS
ECONOMIC AND SOCIAL COUNCIL

Distr. LIMITED

E/ECA/STAT/WG/MS/89/11
22 October 1989

Original: English

ECONOMIC COMMISSION FOR AFRICA

Working Group Meeting on Migration Statistics

Addis Ababa, 6 - 10 November 1989

THE ESTABLISHMENT OF A STATISTICAL DATA BASE ON MIGRATION

Table of Contents

		Paragraphs	Pages
I.	INTRODUCTION	1	1
II.	Concepts, definitions and classification	2 - 11	1 - 3
III.	Data Collection	12 - 20	3 - 5
IV.	Issues on migration statistics	21 - 30	5 - 6
V.	The ECA statistical data base	31 - 38	7 - 9
	1. Objectives	31	7
	2. Organization	32	7
	3. Implementation	33 - 38	7 - 9
VI.	ESTABLISHING A STATISTICAL DATA BASE ON MIGRATION	39 - 45	9 - 10
	1. Objectives	39	9
	2. Organization	40 - 45	9 - 10
VII.	CONCLUSION	46	11
	ANNEX I REFERENCES		

I. INTRODUCTION

1. Migrations modify regional rates of population growth and alter the regional distribution of the country's population. Indeed, the movement of population is a topic of direct interest for policy, planning and programming purposes because of its interaction with other demographic forces and its effects upon the socio-economic development. Given the importance of the subject, an assessment of the quantitative aspects of migration in African and hence, the establishment of a statistical data base on internal and international migrations is desirable.

II. CONCEPTS, DEFINITIONS AND CLASSIFICATION

2. Several problems, dealing most particularly with concepts, definitions and classification affect data collection on migration in Africa.

3. For several years attempts have been made by various international organizations to improve the international comparability of international migrations statistics culminating in the 1953 United Nations recommendations. However, a mid 1970 United Nations study of national practices showed that a variety of definitions of concepts and definitions exist, widely different from those contained in the 1953 recommendation. Against this unsatisfactory position of international migration statistics, the 1953 recommendations were revised in 1980. The main results of the 1980 recommendations (United Nations, 1980) are summarized below.

4. The concept of migration envisages only the type of mobility that involves a move of some minimum specified distance from the place of usual residence and a taking-up of life in a new or different place. Thus time and space (or distance) are central to the definition of migration. This restriction on the concept eliminates certain types of spatial mobility that are commonly referred to as "migration", but that, for the sake of scientific precision, should be listed under different categories. These types include nomadism, the movement of population groups that have no fixed place of residence, and the seasonal movements of persons who live in two or more places during the course of a year.

5. An International migration is a change in usual residence involving movement across an international boundary. An Internal migration is a change in usual residence involving movement across administrative and political boundary within a country.

6. A migrant is a person who has changed his usual place of residence at least once during the migration interval. For a given migration interval, the number of migrants is rarely as large as the number of migrations. A life time migrant is a person whose area of residence at the census on survey date differs from his area of birth.

7. Migration involves simultaneously two localities. The area from which a move is made is the area of Origin or departure; the area in which a move terminates is the area of destination or arrival. An immigrant is an international migrant who enters another country; an emigrant is an international migrant who leaves another country.

8. The criteria whether or not the object of the journey is to take up an occupation is used partly to distinguish short-term immigrants from tourists. The 1980 recommendations of the United Nations Statistical Office opted for the use of the criteria actual length of stay or absence for classification of immigrants and emigrants. The standard period of one year was suggested for distinguishing short-term (less than one year) from long-term (more than one year) immigrants and emigrants.

9. Residence is defined as a continuous stay in the country of departure for a period of one year or more. Non-residence is defined as a continuous stay among from a country of arrival for a period of more than one year by persons who had never lived there or absence from a country of arrival for a period of more than one year after the last stay of more than one year. Visitor to a country from abroad are defined as persons visiting a country from abroad who have stayed or intend to stay for a period of not more than a year in the country. Additionally such persons should not be residents of or long-term immigrants to the country nor should they be short-term immigrants or belong to other categories of arrivals such as nomads and refugees. Two classes of visitors could be identified: tourists (defined as visitors that stay at least one night) and excursionists are visitors who unlike tourists do not have to stay at least one night in accommodations in the country, but can stay for more than one day, retiring to their ships to sleep.

10. Inter-regional migration refers to movements between administrative/political sub-divisions of a country. A Commuter works in city but returns to village each evening; it can occur regularly or spasmodically. A seasonal or shuttle migrant searches for work to augment meager agricultural incomes. A short term sojourner comes to city for limited period (though longer than a season) to accomplish a specific purpose (e.g. to reach a particular education level). A stage migrant moves to the city at

one or more specific stages of his life cycle. Working life migrants are migrants who spend their entire working lives in the city but intend, and eventually do, retire to their home village. A permanent migrant is committed totally to exchanging a rural for an urban way of life. An undecided migrant has no clear intentions either to stay in the city, or to return to the village.

11. The complexities connected with these concepts and definitions in practice render migration measurement, data collection and comparisons difficult.

III. DATA COLLECTION

12. The principal sources of data on both internal and international migrations are population censuses and demographic sample surveys. Other sources are administrative records and population registers.

13. The internal migration data from censuses and surveys are of two types, the 1st type are data obtained through direct questions on related topics and data derived indirectly from census questionnaires not necessarily collected for the purposes of measuring internal migration. The 2nd type come from net internal migration estimates derived from the difference in the population counts in two censuses.

14. The four types of direct questions most often used to derive information on migration censuses are: place of birth, place of last residence, duration of residence in the place of enumeration and residence on a specific date before the census. Information derived from surrogate measures such as age and sex distributions is predicated on the assumption that the movement is selective with respect to these variables. Thus, area variations of these variables enable conclusions to be made on rates of mobility, subject to some reservations: age and sex distributions also depend on other components of population change such as fertility and mortality. The part attributable to migration after taking into account natural increases is difficult to evaluate in most African countries because birth and death rates are not known with certainty.

15. The indirect methods of internal migration estimation have been classified into two broad types by shyrock and associated (in the methods and materials of demography) as:

(a) National Growth Rate method
(b) Residual method comprising the vital statistics method and the Survival ratio method.

The full discussion on the methods of measuring internal migration has been done under the agenda item 7 and also can be found in the

document ECA, Statistical Information bulletin for Africa, n° 15.

16. The sources of international migration data are the same as those of internal migration. The administrative records are sources for the direct measurement of international migration and include entry/departure cards or forms completed at international borders, residence/work permits issued to aliens, general population registers and registers of aliens. Frontier control data are generally the most important source of international migration statistics, but in many African countries the frontier control records are too deficient to provide satisfactory indications. Thus population censuses and/or sample surveys are the major sources of the available statistics on the stock and characteristics of international migration.

17. There are differences between international migration data obtained in census or survey and the data compiled from frontier control records:

- Frontier control records provide the total of arrivals and departures on a continuing basis.
- Census or survey data do not provide the total volume of immigration since they do not include those who died or returned to their countries of origin or places of previous residence before the census reference period, nor do they provide information on emigration.
- Census and survey data, unlike the administrative records, are useful for migration analysis involving the study of the changes in the socio-economic characteristics of migrants and their geographic distribution within a country.

18. Census data on international migration are obtained on the basis of census questions on place of birth, nationality or country of citizenship, place of last previous residence or residence at a specified past period and duration of residence or year of immigration.

19. The major difference between the use of census or survey as source of data on international migration is that a census can provide data for small areas but it is not a suitable source for detailed information such as reasons for migration. On the other hand though a national sample survey cannot provide small areas statistics, it offers a suitable means for in-depth study of international migration.

20. The collection of data on both internal and international migration in Africa is seriously affected by the non uniformity on concepts, definitions and classification. Because these data are often based on different definitions and collection systems, it

is difficult and sometimes impossible to compare data on migrant flows between pair of countries.

IV. ISSUES ON MIGRATION STATISTICS

21. Within the framework of even a restricted concept of migration as given earlier, there are a number of subsidiary conceptual and procedural problems because one cannot give each term a wholly precise meaning; on the other hand, a lot of compromises have to be made between the ideal and the feasible in the real world of empirical research. The above definition for migration indicates that short moves - from one apartment to another in the same building or in the same lawn - are not considered. Only moves of some reasonable minimum distance should qualify as migrations. Although the tabulation of moves by distance covered is obtainable with exact information on points of origin and points of destination, it is a difficult and laborious process to produce this kind of detail. Operationally, a migration is often defined as a change of residence from one civil division to another; then, given that civil divisions of the same class vary widely in size, shape and length of border, it is clear that this criteria for identifying migrants lack uniformity.

22. Persons who move during a migration interval and died should, strictly peaking, be counted as migrants and their moves should be counted as migrations. However, since information on migration is usually obtained after the end of the interval and from persons still living at that time, both the number and the moves of migrants who died in the interim are likely to be excluded.

23. In applying the definition of international migration given above in some African countries, difficulties arise because a large number of boundaries were demarcated during the colonial period without regard to whether or not they divide ethnic groups. Many types of mobility from rural to urban involve the crossing of international boundaries without reference to them. Also, because of the extensive lengths of the boundaries, most not protected by natural terrains, and because of the frequency of the movements, it has not proved feasible to record all movements across them.

24. In international migrations, data based on the intended or actual length of stay or absence enables classification, but in many cases, intention do not materialize and stated intentions about length of stay are not recorded, do not always coincide with actual length of stay.

25. The question on birthplace is the source mostly used by African countries to gather information on migration and for classifying birth-places as rural or urban, and people as migrant

or non-migrant. Regarding international migrations, this method gives poor information because foreigners by fear of being excluded from the country or denied some opportunities, give false responses.

26. Censuses, administrative records, population regional and sample surveys are the main source of information on migration. The statistics and collection system which make it difficult, if not impossible, to compare data of different countries or sources.

27. Rural to urban movements is a type of migration of great interest. Here, the classification of origin and destination as rural/urban presents some definition problems. One time of classification scheme frequently used is a population size threshold. Since over time localities change status by natural increase or other reasons, reclassification analyses involving more than one time period cannot usually keep abreast of these changes. Also, if respondents are asked to classify their origin localities as rural or urban, the answers will be affected by memory lapse on the part of those who have not kept pace with changes of various localities; misrepresentations of rural places as urban is also possible.

28. The emigration of skilled workers (the so called "brain drain" phenomenon) is a significant resource transfer for a developing country. The issue is very important, not only because of its demographic significance as such, but mostly for its economic and political character. It removes needed skills and takes away productive adults whose childhood or training has been paid for by the country of origin. At the current time the issue is quiet complex and occurs not only from developing to developed countries, but also between developing countries and even from developed to developing countries.

29. The migration phenomenon plays a big role in the socio-economic development and great care should be exercised in its study and its analysis to enable planners and policy makers in constructing sound programmes. Empirical evidence throws light on a big number of issues; for instance, the conventional assumption that most rural out-migration is propelled by poverty and lack of education, health and other facilities, and hence that better rural opportunities and living standards should reduce the exodus proved wrong; a small taste of modernization creates a demand for more.

30. Migration has positive and negative aspects and must be carefully studied before it is used for policy development and programme formulation.

V. UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA STATISTICAL DATA BASE

1. Objectives

31. The economic commission for Africa Statistics Division in collaboration with substantive divisions of the organization has established an integrated statistical data base containing social demographic and economic data. This data base is an information system where statistical data are compiled, processed and disseminated. The main objectives of the data base are:

1. To compile statistical data in a computerized form.
2. To provide ECA statisticians, economists, and demographers with direct and speedy access of African statistical data and to provide them with data processing and analysis services.
3. To automate the publications of ECA's statistical information.
4. To disseminate comprehensive and up-to-date statistical information to users including data collected from various international data banks.
5. To provide assistance services to member countries who plan to set up statistical data banks.
6. To give users other types of services which are required from the system.

2. Organization

32. The ECA statistical data base is organized in three levels of data bases integrated into one system of information. The level I data base is a country profile which produces a snap shot view of the socio-economic condition of any one African country or region. Level II contains the bulk of detailed statistical data using standardized international classifications, concepts, and definitions. The data being voluminous, is kept off-line on magnetic tapes and is used on demand or as input to update levels I and III. The level III data base contains selected time series data for on-line application which is capable of answering the most frequently sought data.

3. Implementation

33. The implementation of level I depends on levels II and III. To date this data base is not implemented. For level II, foreign trade statistics and national accounts data are operational. The foreign trade data using the Standard International Trade

Classification, contains over 20 million entries on magnetic tapes. There are over 25,000 national accounts data including sectoral deflators.

34. The level III data base is time series containing data values for up to 26 years from 1965 to 1990 for a given statistical series. The data contained are for aggregates and selected items which are frequently sought by users. The "African Statistical Yearbook", "African Socio-economic Indicators", "Foreign Trade Statistics for Africa: Summary Tables Series C", "Foreign Trade Statistics for Africa: Direction of Trade Series A", the Statistical tables for the "Survey of Economic and Social Conditions in Africa" and various country tables are produced from the level III data base.

35. To date the level III data base contains over 151,000 time series data on trade, national accounts, agriculture, industry price, population, health, educarion, labour, finance, transport and communication and vital statistics. Each data is identified by statistical series identifier. Depending on the type of statistics, other parameters are also used to uniquely identify the data series. These are the mode of observation, the reporting country, the partner country, and the base year. The mode of observation is used to give more description or the characteristics of the series as each statistical series could be observed differently. Each statistical data is flagged by a footnote to indicate in broader terms the source and type of data as official national data, estimates by the reporting country, provisional data, etc.

36. The bulk of statistical data is contained in one detail data file and more description of the pertinent data fields, series identifier, mode of observation, the reporting country, partner country and the unit of observation are contained in the other data files. The detail statistical data set is linked to these master data files via the series identifier, mode of observation, reporting country, partner country and the unit of observation codes or variables. These fields are also used to identify data entries in the different data sets.

37. The level III data base is built and maintained using Image 3000 data base management system a product of Hewlett-Packard and custom written programs. Image 3000 is used to define, create, access and maintain the data base.

38. Custom written programs, are developed to fill the gap between the requirements of the statistical data base and the features available with Image 3000 data base management system.

These programs are used for:

1. On-line and batch data entry and update.
2. Table generation.
3. Storage and retrieval of data.
4. Calculation of growth rates, and
5. Data base maintenance and regular up date of derived data.

VI. ESTABLISHING A STATISTICAL DATA BASE ON MIGRATION

1. Objectives

39. The most fundamental goal in developing a migration statistics data base in a country or region is to supply policy makers, programme planners and researchers with statistics on internal and international migrations. The data base should be used in an integrated manner to explain the outcome of the economic and social policies at all desired levels.

2. Organization

40. The migration statistics data base is an information system where users are able to enter data which could be retrieved at will and obtain information in respect of users demand. The data base will have a system of classification for migration statistics according to international classification of migration, concepts and definitions. The system of classification proposed for the data base is shown in Annex I. This classification can be fully developed for each African country.

41. In general the main classifications for migration statistics are: -

1. Internal migration
   - Inter-Urban migration (Rural and Urban migration)
   - Net migration per specific area
   - No. of migrants by sex and age
   - No. of migrants by kind of economic activity
   - No. of migrants by reason for leaving (cause of migration
   - No. of in and out migrants by sex and age

2. International migration.

   A) Total No. of immigrants
      - No. of immigrants by sex and age
      - No. of immigrants by kind of economic activity
      - No. of immigrants by reasons for leaving (cause of migration)

B) Total No. of emigrants.
- No. of emigrants by sex and age
- No. of emigrants by kind of economic activity
- No. of economiccaly active emigrants by sex

3. Total financing of migration.

42. The migration statistics data base will contain country data according to standard logical record structure maintraining the international classification system, concepts and definitions. Similar to the organization of the Economic Commission for Africa Statistical Data Base, this data base could be organized in different data files. The detail numerical data could be time series data built in one data file. Each logical record contains the variables for :-

- The migration statistics classification code
- Additional information on how the series is defined such as sex, growth rate etc. (the mode of observation)
- The country or region of the origin of the migrant
- The country or region of destination of the migrant
- The unit of measurement
- A series of numerical data value along with some descriptors to identify if the data is actual official, provisional, estimated, projected etc.

43. In addition to these variables other variables such as the year or range of years for which the data is recorded, the date of update, the base year if applicable, etc are also included.

44. The other data files will contain the most relevant variables along with their full text description in both English and French. These files give the description of

- The Statistical series
- The mode of observation
- The reporting country or region or the origin of the migrant
- The destination country or region of the migrant whenever applicable and
- The units of measurement used.

45. These files are hierarchically connected to the numerical data file using the same variables. This type of hierarchial organization will conserve storage space and enable fast retrieval of data. The variables used in these data files are used as search items to retrieve the numerical data. These files also give the necessary full description of the statistics.

VII. CONCLUSION

46. The establishment of statistical data base on migration statistics is vital for the proper analysis, dissemination and monitoring of the population movements of a country. It will readily make available the data for policy formulation, planning and programming purposes. This data base could be integrated with other statistical data bases to give an indication of the socio-economic conditions of a country or region. The statistical data base on migration statistics can also be used to indicate the impact of population movement on the economic development.

ANNEX I

Statistical series classification for migration statistics

A) Internal migration

1. Prevalence of rural and urban population mobility
   Total No. of rural to urban migrants
      No. of commuter
      No. of seasonal migrants
      No. of permanent migrants
      No. of undecided and other migrants

   Total No. of rural to rural migrants
   Total No. of urban to rural migrants
   Total No. of urban to urban migrants
   Total No. of inter-regional migrants

2. Relative importance of rural & urban population mobility (rates of all the quantities in 1 with respect to a carefully selected base).

3. Net migration per specific area for a given period

4. Rate of migration per specific area for a given period
   . Annual growth rate of urban population
      . As % of total population
   . Annual growth rate of rural population
      . As % of total population

5. No. of migrants by social and professional category
   No. of migrants by sex
   . Female
   . Male
   . Both sex

   No. of migrants by age group
   . Age less than 15 years
   . Age 15 to 24 years
   . Age 25 to 34 years
   . Age 35 to 44 years
   . Age 45 to 54 years
   . Age 55 to 64 years
   . 65 years and over

   No. of Immigrants by kind of economic activity.
   . Agriculture
   . commerce
   . industry

No. of migrants by reasons for leaving (cause of migration)
- . Agriculture
- . Employment (Labour)
- . Education
- . Health problems (of oneself or relatives)
- . Marriage
- . Other reasons

No. of out-migrants by sex
- . Female
- . Male
- . Both sex

No. of out-migrants by age group
- . Age less than 15 years
- . Age 15 to 24 years
- . Age 25 to 34 years
- . Age 35 to 44 years
- . Age 45 to 54 years
- . Age 55 to 64 years
- . 65 years and over

No. of In-migrants by sex
- . Female
- . Male
- . Both sex

No. of in-migrants by age group
- . Age less than 15 years
- . Age 15 to 24 years
- . Age 25 to 34 years
- . Age 35 to 44 years
- . Age 45 to 54 years
- . Age 55 to 64 years
- . 65 years and over

B) International migration per African country

1. Total foreign population
   Total No. of Immigrants.
   Total No. of Immigrants by sex.
   - . Female
   - . Male
   - . Both sex

Total No. of Immigrants by age,
- . Age less than 15 years
- . Age 15 to 24 years
- . Age 25 to 34 years
- . Age 35 to 44 years
- . Age 45 to 54 years
- . Age 55 to 64 years
- . 65 years and over

Total No. of Immigrants by kind of economic activity,
- . Agriculture
- . commerce
- . industry

No. of immigrants by country of nationality
No. of immigrants by sex and by country of nationality
- . Female
- . Male
- . Both sex

Total No. of immigrant workers by age group,
- . Age less than 15 years
- . Age 15 to 24 years
- . Age 25 to 34 years
- . Age 35 to 44 years
- . Age 45 to 54 years
- . Age 55 to 64 years
- . 65 years and over

Total No. of visitors from abroad
- . No. of tourists
- . No. of excursionists
- . others

Total No. of immigrant refugees
Total No. of persons in transit
Total No. of immigrant nomads and others

2. Total No. of emigrants
Total No. of emigrants by sex,
- . Female
- . Male
- . Both sex

Total No. of emigrants by age,
- . Age less than 15 years
- . Age 15 to 24 years
- . Age 25 to 34 years
- . Age 35 to 44 years
- . Age 45 to 54 years
- . Age 55 to 64 years
- . 65 years and over

Total No. of emigrants by age and sex
- Age less than 4 years
  - . Female
  - . Male
  - . Both sex
- Age 5 to 9 years
  - . Female
  - . Male
  - . Both sex
- Age 10 to 14 years
  - . Female
  - . Male
  - . Both sex
- Age 15 to 24 years
  - . Female
  - . Male
  - . Both sex
- Age 25 to 34 years
  - . Female
  - . Male
  - . Both sex
- Age 35 to 44 years
  - . Female
  - . Male
  - . Both sex
- Age 45 to 54 years
  - . Female
  - . Male
  - . Both sex
- Age 55 to 64 years
  - . Female
  - . Male
  - . Both sex
- 65 years and over
  - . Female
  - . Male
  - . Both sex

No. of economically active emigrants by kind of economic activity
- . Agriculture
- . Commerce
- . Industry
- . Others

No. of economically active emigrants by sex
- No. of economically active emigrants employed
  - . Female
  - . Male
  - . Both sex

No. of economically active emigrants unemployed
. Female
. Male
. Both sex
No. of economically active emigrants inactive
. Female
. Male
. Both sex
No. of persons visiting abroad
No. of emigrant refugees
No. of immigrant refugees leaving the country
No. of persons leaving for education
No. of emigrant nomads & others.

C) Total Financing on migration
. Net social costs of migration
. Net social benefits of migration
. Others

REFERENCES

ECA, 1985. STATISTICAL INFORMATION BULLETIN FOR AFRICA. E/ECA/SIB/15 and E/ECA/SIB/17

UNITED NATIONS, 1970. METHODS OF MEASURING INTERNAL MIGRATION. Manual VI. ST/SOA/Series A/47. New York.

UNITED NATIONS, TRENDS AND CHARACTERISTICS OF INTERNATIONAL MIGRATION SINCE 1950. ST/ESA/Series A/64.

UNITED NATIONS, WORLD POPULATION TRENDS AND POLICIES: 1979 Monitoring report. Vol I population policies, New York, 1980.

UNITED NATIONS, 1988. STATISTICS OF INTERNAL MIGRATION: A TECHNICAL REPORT. ST/ESA/SER.F/23.

US Census Bureau, THE METHODS AND MATERIALS OF DEMOGRAPHY, by H. Siegel and J.S. Siegel (ed.).